



SERIES  
No.  
402

KYOTO IMPERIAL UNIVERSITY

SPECIAL NOTEBOOK

Evolution

Darwin

Origin of species

再検討

"BOOKMAN SERIES", SANSEIDO CO., LTD., TOKYO.



Darwin

Chap. VI critics

new form, origin

21) 十之明方+1. 偶々=客と3トシモ, 一匹の駄目.  
22) =匹 8 9 7 アハトシモ, 果て competition<sup>2</sup>, 古 i form  
(less profitable) 7 2, 6 7 8 + 6 7 8 7 が出来て200%

[illegible]

通才の「 $\bar{\alpha}_2$ 」: new form, 禁止地の中で心と行が異なる  
 音である。 どの程度が実際 = 存在している?

It is in a fully-stocked country  $\frac{1}{2} + \frac{1}{2} + \frac{1}{2} = \frac{3}{2}$   
stage 7 is  $\frac{1}{2} + \frac{1}{2} + \frac{1}{2} = \frac{3}{2}$ .

只一元的學生  $\rightarrow$  3元的學生  $\rightarrow 177$ 

natural selection 自然选择形成, mechanism 机制, competition 竞争, 内容可构造出来, 何谓机制[17].

0. 多样性の variety 程度, gradation 7 4 7 4 1 2 3 4 5. 21 = 7 " 1  
species の dominant + 個数 1 3 4 5. 分布地 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21  
" 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 species / stabilization 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21  
21 = variety. 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 species character = 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21

0 267 印校:  $\gamma_{\alpha} \gamma_{\beta} = 1$ , mutation - on species, origin 9 号 7 月 10 日付  
1 号 7 月 10 日付  $\uparrow \downarrow = 1$  以上  $\frac{1}{2}$  の場合  $= 2 \times 10^{-7}$  7 月 12 日付 10 日付 得又.



Darwin's geological record, imperfectly collection 不完全な収集  
 Darwin, theory = original + A + new form + B + ...  
 時/回 = 単位時間 + ... ie A + B + ... 一語 = ...  
 ... = Darwin 式 = 自然選択の理論  
 ... = 長年月を要する ...

$$A 100\% \rightarrow A 90 + B 10 \rightarrow A 80 + B 20 \dots \rightarrow A 10 + B 90 \rightarrow B 100$$

この図 = ...

第0

$$A 100\% \rightarrow A' 100\% \rightarrow A^2 100\% \dots \rightarrow A^n \dots = B\%$$

... ?

○ 変異 = mutation のこと、species = 種、種は変異によって生じる、  
 transitional + form、存在する種は変異によって生じる、  
 species の種、種は、extinct + ...、  
 ...、  
 ... = long age + ...、  
 ... is transitional form ...

○ competition in a species ... 競争 ...  
 in a species = ... species の ... gradual = ...  
 ... form ... descendant ...  
 ... natural selection & struggle for existence  
 式、theory ...  
内在的

○ ... 種 ... 種 ... 種 ...

2. = domesticated life ... theory ... Darwin  
 ... 法解 ...



p. 126 分布域が明瞭 = not 17. 明瞭 = <sup>好意</sup> = 種, biological + 同義 =  
 212 202 211. if these species are already defined objects  
 種 = 適合 種. Darwin, if 1代 = 2代 + 3代 + 4代 + 5代. 2代  
 1-2代 = 種 = 明瞭 + 3代 + 4代 + 5代 = 2代 + 3代 + 4代 + 5代  
 same parent 2代 + 3代 + 4代 + 5代 = 2代 + 3代 + 4代 + 5代

種ト変種ト、是ハ程度ノミナラズ Darwin ヲ以テセル、突然変異  
 トハモ、程度ノミナラズ之ヲ以テモ以テテ、然レ彼ハ係型トテ  
 種ト一ニ認メテ、之ヲ = 兩變種ト、即チ transitional + 第三  
 變種ト認メテ、  
 單系變種ト =

また、存在の一層不かりとスルヲ示シ

この各人、界への対応を  $A$  と  $B$  上の対応  $\alpha$  と  $\beta$  とし、また  $C$  上の対応  $\gamma$  と  $\delta$  とし、

$$A \bullet A \rightarrow C, \quad A \rightarrow C \rightarrow B, \quad A \leftrightarrow B$$

↳ Darwin  $\mathcal{L} = \frac{1}{2} \dot{\phi}^2 + \frac{1}{2} \dot{\theta}^2 + \frac{1}{2} \dot{\psi}^2$ , 30/05

$$A \quad A \rightarrow A' \quad A \rightarrow A'' \dots A \leftrightarrow A^n = B$$

トナツヲモノト見ル。

[illegible]







大キイ sp. カハサイ sp. 大キイ var. カハサイ var. 7 域: テリテロイフ 7 18 27 号  
ノ 2 号 1) トハ イフナイノテナイカ?

- [illegible]

- Darwin の進化論、骨子
1. 変異 (異) トイフモノが原因ナリ
  2. 変異 (異) 11 (多) 倍ナリ
  3. この変異が動物, competition (struggle for existence)  
= 利己行為 = 有効ナリ。これ 変異ヲ存スルモノカ 高生存  
力 = 強ク select ナルモノトイフナリ。
- だから 変異, 中ニ 利己行為ナル利権ハ 淘汰ナリ 生存スルモノカ  
存スルモノトイフナリ



第一章

初めは  
既=変異アルヲ認む

飼育生物、変異

何故飼育生物=変異が多ク現ルカ?

答. 系統ナルトハ conditions of life が異ニ  
シテアロク.

conditions of life,  
変異=及ス影響

direct +  
indirect

影響ナル factor

1. the nature of the organism
  2. the nature of the conditions
- reproductive system = 繁殖システム

これら二要素  
アル。

変異、系統ハ何カ?

答1. the nature of the organism is 生物=変異スル  
変異ヲシ初メハ 系統ナルトイフ性質ガアル (傾向)

2. the nature of the conditions, 環境。飼育生物  
の nature of the condition (環境), 性質=アル。

性質ガアル。(内在), the nature of the condition = 環境ニ  
変異スル

が系統ガ最初=分岐均合=アル。 conditions of life, 環境ハ  
これニ変異ヲ誘起セシメテアロク。

結論 アル変異、傾向アル系統種、多数個体=同  
シラ、多数個体ハ 環境全シ 均合=変ヒス

element factor 率=  
一環境要素ガ変異ヲ誘起スル要因トシテ用ニテアラハ  
ルデアロク。(p.6)

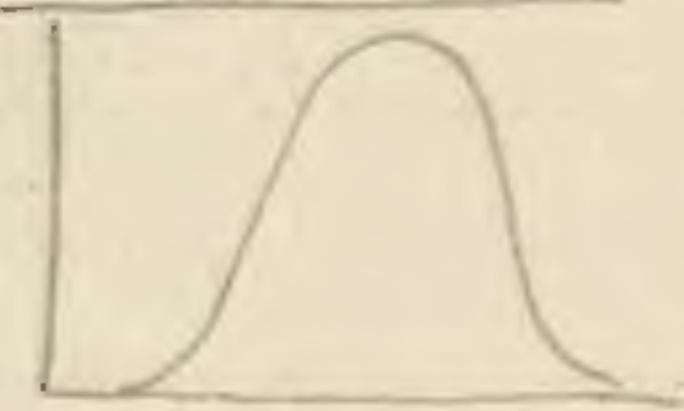
N.B. 1. 均合ハ勿論 経緯変異ヲ考慮=入レテアル

N.B. 2. 此ニコレハ環境決定論トナラセテ、  
種ハ変化するガ 種ハ創造セラルトイフコト=アル  
種ノ中=Aニ変異ノ傾向=アルモト Bニ変異  
AトBナルニ種=変化するトイフガ考ヘラ

ノ傾向=アルモトガ 同一環境要素、用下=アツテ  
シテヨイ。(スルコトハ内在説ナル)。



彷徨変異



彷徨変異 "origin of species = 同/異 + 1

彷徨変異 "連続的変異, 連続的変異? 2L

~~連続的変異~~

} → 最後 " 純系 / 淘汰 = 2 + 1

突然変異

トイフモノガアル, コレモう忍び難キル.

コノ ~~突然変異~~ 突然変異ヲ考ヘルナキ, the nature of the organism  
如何ナル 如何ナル 変異ヲ突然変異ト define 得ルカ

" the nature of the conditions ヲモテ, 3) important トナル,

用, 不用, acquired character " 連続的変異.

アラズル性質ハ何デアル 連続的変異ト考ヘルナキ, モサレテ 異質トス (p. 10)

Darwin が domesticated animal として deduce する  
 2L 眼目デアル.

コレが 果シテ正シキカ トニカ?

種ハ 猶主ノ 生活ヲナスモノタルコト

泥棒ハ 猶主ノ 生活ヲシテ 病人ハ 猶主ノ 生活ヲシテ ナシ.

= 同ス ヲモテ

人為淘汰カ 何デ淘汰ヲ deduce する = アルナシ.



transmissibility of acquired character. (Weissmann)

variation  
1. 100 + 10 + 1 + 10 = 122. mutation = 100 + 10 + 10 = 120 + 10 + 10.

variation  
1. 100 + 10 + 10 + 10 = 130. mutation = 100 + 10 + 10 = 120 + 10 + 10.

100 + 10 + 10 + 10 = 130. mutation = 100 + 10 + 10 = 120 + 10 + 10.

fluctuating variation + mutation (De Vries) 1. 100 + 10 = 110.

1. 100 + 10 = 110. mutation = 100 + 10 = 110 + 10 = 120.

1. 100 + 10 = 110. mutation = 100 + 10 = 110 + 10 = 120.

1. 100 + 10 = 110. mutation = 100 + 10 = 110 + 10 = 120.

1. 100 + 10 = 110. mutation = 100 + 10 = 110 + 10 = 120.

gene theory. --- Cytology.

combination. 120 = new character, 100 = old character.

1. 100 + 10 = 110. mutation = 100 + 10 = 110 + 10 = 120.

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1. 100 + 10 = 110. mutation = 100 + 10 = 110 + 10 = 120.

人間  
動物  
植物

生物

生物

人間

生物 + 植物

100 + 10 = 110.

100 = 100, 100 = 100.

evolution 1. 100 + 10 = 110.

Evolution 1. 100 + 10 = 110.

1. 100 + 10 = 110.

evolution 1. 100 + 10 = 110.

holistic evolution 1. 100 + 10 = 110.

1. 100 + 10 = 110.

natural selection 1. 100 + 10 = 110.

variation 1. 100 + 10 = 110.

origin — establishment, natural selection 1. 100 + 10 = 110.

mechanism 1. 100 + 10 = 110.

1. 100 + 10 = 110.

1. 100 + 10 = 110.

1. 100 + 10 = 110.

1. 100 + 10 = 110.

1. 100 + 10 = 110.

1. 100 + 10 = 110.



○.  $\text{H}^+$  energy =  $\text{free} = 2.17 = 0.17 \times 2.4$

$\frac{d}{dt} H = \text{カ・デバ}$      $\frac{d}{dt} H = \text{ア・タ・ハのX} = \frac{H}{\tau} \Rightarrow \text{energy decay} = 45 \sim 50$

○ Individuality — 24.  $\bar{f} \bar{z} = \bar{r}$  community =  $\bar{r} n$

4.  $\frac{1}{4} \frac{2}{12}$  wider range = 20 adjustment  
= 12, 104 - 12 stock = 92.

○ evolution is progressive?

complexity + adaptiveness +  $\frac{1}{2} \sqrt{t} - \frac{1}{2} t^2$

natural selection  $\rightarrow$  unstable  $\rightarrow$  stable  $\rightarrow$  process

our reproduction, regulation, adjustment, 説明

○ ⑤ 種 (phylogenesis) と 個 (ontogenesis) と, 対立

○ 62, 11, 不事  $\frac{1}{2}$  ヲハフコトニ, 又  $\frac{1}{2}$  ハ  $\frac{1}{2}$  ナリ

○ succession - evolution, 12/14

climax, 高潮, climax 上 方向性  
生老



1881

1882

1883



The following is a list of the  
 names of the persons who  
 were present at the meeting.

The following is a list of the  
 names of the persons who  
 were present at the meeting.

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 were present at the meeting.



1. The first of the following is a list of the names of the  
 persons who have been elected to the office of  
 President of the United States since the year  
 1789. The names are given in the order in which  
 they were elected. The names are given in the  
 order in which they were elected. The names are  
 given in the order in which they were elected.

1. The first of the following is a list of the names of the  
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 President of the United States since the year  
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 they were elected. The names are given in the  
 order in which they were elected. The names are  
 given in the order in which they were elected.

1789  
 1792  
 1796



Received of the  
Hon<sup>ble</sup> Secy of the Navy  
the sum of \$1000.00  
for the purchase of  
the ship "Albatross" for the  
U.S. Navy

Witness my hand and seal  
this 10th day of June 1874

John A. Bristow  
Secretary of the Navy





$\Delta T = 10^\circ \text{C}$  effect,  $\Delta \bar{r} = 0.001$   
 $\Delta \bar{r} = 0.001$ !

comp. component of adjustment  
 environmental selection  
 adjustment to the

adaptation is a structural modification to physiological  
 a physiological one compensation is independence  
 adjustment is a structural modification to physiological  
 adjustment is a structural modification to physiological

adaptation is a structural modification to physiological  
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### Law of Irreversibility of Evolution

adaptation is a structural modification to physiological  
 adaptation is a structural modification to physiological  
 adaptation is a structural modification to physiological  
 adaptation is a structural modification to physiological

Lamarckism, - 1809



21 + 21 = 42, structural adaptation / origin // 23 mutation =

352, 2P x 11 2) useless 7 7 7 7 11.

又, 41 spread, 说明与出来于4+12+1+1

ie 1) hybridation  $s + 1p + 1d = 3$

2) wholesale selection = select + u + 1 + 1 + 1 + 1

$21 = 17 + 4$  是  $2 + 4 + 17$  的, 即  $\frac{21}{17} = \frac{2}{17} + \frac{4}{17}$ , 是免印的!

i. p. 369 Modifications leading to more efficient organization are more likely to be adaptive (in the strict sense), but these are usually recognisable only when we compare the larger divisions of the animal kingdom.

2017年今日，以此為記，簡述之。!!

股がうつておる 食物ヲトル  
 股がうつておる ~~食物ヲトル~~ 食物ヲトル又 ) 股がうつておる イヌガキ = レルカ . トラカ?  
 フケルテモ

$\textcircled{6} = \textcircled{1}'$  1777 1778 1779 1780 1781 1782 1783 1784 1785 1786 1787 1788 1789 1790 1791 1792 1793 1794 1795 1796 1797 1798 1799 1800 1801 1802 1803 1804 1805 1806 1807 1808 1809 1810 1811 1812 1813 1814 1815 1816 1817 1818 1819 1820 1821 1822 1823 1824 1825 1826 1827 1828 1829 1830 1831 1832 1833 1834 1835 1836 1837 1838 1839 1840 1841 1842 1843 1844 1845 1846 1847 1848 1849 1850 1851 1852 1853 1854 1855 1856 1857 1858 1859 1860 1861 1862 1863 1864 1865 1866 1867 1868 1869 1870 1871 1872 1873 1874 1875 1876 1877 1878 1879 1880 1881 1882 1883 1884 1885 1886 1887 1888 1889 1890 1891 1892 1893 1894 1895 1896 1897 1898 1899 1900 1901 1902 1903 1904 1905 1906 1907 1908 1909 1910 1911 1912 1913 1914 1915 1916 1917 1918 1919 1920 1921 1922 1923 1924 1925 1926 1927 1928 1929 1930 1931 1932 1933 1934 1935 1936 1937 1938 1939 1940 1941 1942 1943 1944 1945 1946 1947 1948 1949 1950 1951 1952 1953 1954 1955 1956 1957 1958 1959 1960 1961 1962 1963 1964 1965 1966 1967 1968 1969 1970 1971 1972 1973 1974 1975 1976 1977 1978 1979 1980 1981 1982 1983 1984 1985 1986 1987 1988 1989 1990 1991 1992 1993 1994 1995 1996 1997 1998 1999 2000 2001 2002 2003 2004 2005 2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024 2025 2026 2027 2028 2029 2030 2031 2032 2033 2034 2035 2036 2037 2038 2039 2040 2041 2042 2043 2044 2045 2046 2047 2048 2049 2050 2051 2052 2053 2054 2055 2056 2057 2058 2059 2060 2061 2062 2063 2064 2065 2066 2067 2068 2069 2070 2071 2072 2073 2074 2075 2076 2077 2078 2079 2080 2081 2082 2083 2084 2085 2086 2087 2088 2089 2090 2091 2092 2093 2094 2095 2096 2097 2098 2099 2100 2101 2102 2103 2104 2105 2106 2107 2108 2109 2110 2111 2112 2113 2114 2115 2116 2117 2118 2119 2120 2121 2122 2123 2124 2125 2126 2127 2128 2129 2130 2131 2132 2133 2134 2135 2136 2137 2138 2139 2140 2141 2142 2143 2144 2145 2146 2147 2148 2149 2150 2151 2152 2153 2154 2155 2156 2157 2158 2159 2160 2161 2162 2163 2164 2165 2166 2167 2168 2169 2170 2171 2172 2173 2174 2175 2176 2177 2178 2179 2180 2181 2182 2183 2184 2185 2186 2187 2188 2189 2190 2191 2192 2193 2194 2195 2196 2197 2198 2199 2200 2201 2202 2203 2204 2205 2206 2207 2208 2209 2210 2211 2212 2213 2214 2215 2216 2217 2218 2219 2220 2221 2222 2223 2224 2225 2226 2227 2228 2229 2230 2231 2232 2233 2234 2235 2236 2237 2238 2239 2240 2241 2242 2243 2244 2245 2246 2247 2248 2249 2250 2251 2252 2253 2254 2255 2256 2257 2258 2259 2260 2261 2262 2263 2264 2265 2266 2267 2268 2269 2270 2271 2272 2273 2274 2275 2276 2277 2278 2279 2280 2281 2282 2283 2284 2285 2286 2287 2288 2289 2290 2291 2292 2293 2294 2295 2296 2297 2298 2299 2300 2301 2302 2303 2304 2305 2306 2307 2308 2309 2310 2311 2312 2313 2314 2315 2316 2317 2318 2319 2320 2321 2322 2323 2324 2325 2326 2327 2328 2329 2330 2331 2332 2333 2334 2335 2336 2337 2338 2339 2340 2341 2342 2343 2344 2345 2346 2347 2348 2349 2350 2351 2352 2353 2354 2355 2356 2357 2358 2359 2360 2361 2362 2363 2364 2365 2366 2367 2368 2369 2370 2371 2372 2373 2374 2375 2376 2377 2378 2379 2380 2381 2382 2383 2384 2385 2386 2387 2388 2389 2390 2391 2392 2393 2394 2395 2396 2397 2398 2399 2400 2401 2402 2403 2404 2405 2406 2407 2408 2409 2410 2411 2412 2413 2414 2415 2416 2417 2418 2419 2420 2421 2422 2423 2424 2425 2426 2427 2428 2429 2430 2431 2432 2433 2434 2435 2436 2437 2438 2439 2440 2441 2442 2443 2444 2445 2446 2447 2448 2449 2450 2451 2452 2453 2454 2455 2456 2457 2458 2459 2460 2461 2462 2463 2464 2465 2466 2467 2468 2469 2470 2471 2472 2473 2474 2475 2476 2477 2478 2479 2480 2481 2482 2483 2484 2485 2486 2487 2488 2489 2490 2491 2492 2493 2494 2495 2496 2497 2498 2499 2500 2501 2502 2503 2504 2505 2506 2507 2508 2509 2510 2511 2512 2513 2514 2515 2516 2517 2518 2519 2520 2521 2522 2523 2524 2525 2526 2527 2528 2529 2530 2531 2532 2533 2534 2535 2536 2537 2538 2539 2540 2541 2542 2543 2544 2545 2546 2547 2548 2549 2550 2551 2552 2553 2554 2555 2556 2557 2558 2559 2560 2561 2562 2563 2564 2565 2566 2567 2568 2569 2570 2571 2572 2573 2574 2575 2576 2577 2578 2579 2580 2581 2582 2583 2584 2585 2586 2587 2588 2589 2590 2591

例 腦 = 食物が + か + 7 5 9 だ + ズ + 7 7 4 3 + 7 7 4 3 1 2 1 4 2  
7 7 4 3 だ + ズ + 7 7 4 3 + 7 7 4 3 1 2 1 4 2



~~case~~  
rare case 1:27  
- 1018237

[illegible]

p. 329 competition 1 1/2 1 1/2 1 1/2 (Castle 1932)

Orthogenesis

→ '77 年 11 月 competition 8 月 7 日: 11 月 30 日 + 12/1 = 2 = 22 日  
が 22 日 + 12/12 + 12/12 + 12/12 = 22 日 (22 = 22 日!)

→ このとき各々の大域と局所的な傾向 = 平均と分散, 前者は selection による文字の使ひ, 之は拘泥する必要はないとみる.

selection 7 8 9 10 11 12 13 14 15 16 17 18 19 20 21 22 23 24 25 26 27 28 29 30 31 32 33 34 35 36 37 38 39 40 41 42 43 44 45 46 47 48 49 50

②  $\frac{1}{2}$  1. 10/100 2. 10/100  $F = 1.17$  10/10 3. 10/10 hypothesis = 2.100  
T 2 hypothesis = 1.1/2.100

pathological or physiological ~~analog~~ analogy (p. 340)

single mutant の Eo からのハイブリッド、 $\Sigma$  として、この mutant の性質は adaptive であり、且この natural selection が働いてハイブリッドが得られる!!

internal force 7 条 127.1 條目. 127.1 條目 生物 7 条 127.1 條目 (p.342)

1211 章 = hypothesis =  $\neq$  2  
Natural Selection = 自然选择 = 1211



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Natural selection は 単に 生存競争に於て スベテ 生存不生存 = 1/2 の 中から 選ばれる事

Darwin, domestication の 他 1 種 2 種 3 種 4 種 = competitor = an extermination = 互に 殺し合う事

Natural selection の スベテ 1 circumstance = 5 1/2 行ハル 老人の 死 2 1/2 natural selection 行ハル

Adaptation は スベテ Natural selection = 2 1/2 0 1/2 の 中から 選ばれる 事ハル 言葉 行ハル 完全 + adaptation + 2 1/2 行ハル

i.e. Evolution は 結果ヲ見テ 5 1/2 言葉 行ハル = 2 1/2 Natural Selection トハ 現象ヲ見テ 5 1/2 言葉 行ハル Evolution が 2 1/2 Natural Selection が 原因 行ハル Evolution が 結果 行ハル 行ハル 又 Evolution = 2 1/2 agent 又 1 1/2 行ハル Natural selection 行ハル

1 Evolution 行ハル 2 1/2 Natural Selection 行ハル

2 Evolution が 事実 行ハル 3 1/2 Natural Selection 行ハル 事実 行ハル 4 1/2 1 1/2 行ハル fittest が survive 2 1/2 行ハル 意味 行ハル favorable variation 1 意味 行ハル

2 1/2 行ハル 3 1/2 行ハル 今日 生物 1 1/2 行ハル 2 1/2 行ハル 3 1/2 行ハル Natural selection 行ハル 意味 が 2 1/2 行ハル 行ハル

2 1/2 = domestication + nature 1 1/2 行ハル!

又 Evolution or Natural Selection + Origin of taxonomic species 1 1/2 行ハル 2 1/2 行ハル 3 1/2 行ハル!



~~establish~~

evolution = selection + 17 折 + 外 88 + 17 7 + 7 7.  
originally = 生物, 7 展, 展 用 式 7 成 果 7 7 7  
主 17 88 + 17 7 7 7

∴ Natural selection = 自然選択, 環境的 = 見かけの  
 選択, 科学 = 自然選択説, 進化論, 生物学的進化  
 の学問, 自然選択説, 進化論, 生物学的進化